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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/089,891

03/19/2003

Richard Michael Gooch

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6827

23911

7590

05/21/2004

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EXAMINER

DOUGHERTY, ANTHONY T

ART UNIT

PAPER NUMBER

2863

DATE MAILED: 05/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/089,891

Applicant(s)

GOOCH ET AL.

Examiner

Anthony T. Dougherty

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Objections*

1. Claim 2 objected to because of the following informalities: On line 15 of claim 2 for clarity "indicating calculated the assembly point" should be changed to "indicating the calculated assembly point". Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-13 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,380,978 to Pryor in view of U.S. Patent No. 6,510,357 to Naik et al.

With regard to claim 1 the primary reference to Pryor discloses locating an assembly point on a first part at which point the first part is joined to a second part (see abstract) by measuring and determining an assembly location with respect to a second part (see column 20 line 16 through line 39 & column 21 line 1 through line 11), measuring a portion of a surface of a first part (see column 24 line 31 through line 38), the surface being spaced away from the second part (see Figures 5a and 5b), so as to define the position and orientation of the surface (see column 48 line 6 through line 13), calculating as the assembly point on the surface of the first part (see column 24 line 38 through line 47), a point at which the surface of the first part is intersected by a vector passing through the assembly location (see Figures 5a and 5b), and

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indicating the calculated assembly point on the surface of the first part (see column 21 line 12 through line 24). However, Pryor fails to disclose the assembly point is a point at which the first part surface is intersected perpendicularly by a vector passing through the assembly location.

The secondary reference to Naik et al. discloses assembling parts by a perpendicular vector (see column 3 line 34 through line 38).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Pryor to specify the assembling vector be made perpendicularly.

Accordingly, such a modification would have been obvious since Naik et al. teaches perpendicularity improves quality of results generated for safety, noise and vibration computer simulations (see Naik et al. column 3 line 38 through line 40), thereby suggesting the obviousness of the modification.

With regard to claim 2, the primary reference to Pryor discloses locating an assembly point on a first part at which point the first part is joined to a second part (see abstract) by determining an assembly location with respect to a second part (see column 20 line 16 through line 39 & column 21 line 1 through line 11), offering up the first part for assembly with the second part with the first part overlying the assembly location (see Figures 5a and 5b), measuring a portion of a surface of a first part (see column 24 line 31 through line 38), the surface being spaced away from the second part (see Figures 5a and 5b), so as to define the position and orientation of the surface (see column 48 line 6 through line 13), calculating the assembly point on the surface of the first part (see column 24 line 38 through line 47), a point at which the surface of the first part is intersected by a vector passing through the assembly location (see

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Figures 5a and 5b), and indicating the assembly point on the surface of the first part (see column 21 line 12 through line 24). However, Pryor fails to disclose the assembly point is a point at which the first part surface is intersected perpendicularly by a vector passing through the assembly location.

The secondary reference to Naik et al. discloses assembling parts by a perpendicular vector (see column 3 line 34 through line 38).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Pryor to specify the assembling vector be made perpendicularly.

Accordingly, such a modification would have been obvious since Naik et al. teaches perpendicularly improves quality of results generated for safety, noise and vibration computer simulations (see Naik et al. column 3 line 38 through line 40), thereby suggesting the obviousness of the modification.

With regard to claim 3, and applying the rejection of claim 2 above, Pryor discloses determining a reference position fixed relative to the second part (see column 14 line 17 through line 22).

With regard to claim 4, and applying the rejection of claim 3 above, Pryor discloses determining the assembly location is performed by a measuring device in a first position and determining the reference position and measuring a surface of the first part is performed by either the same device or another device in a second position (see column 23 line 29 through line 30).

With regard to claim 5, and applying the rejection of claim 4 above, Pryor discloses measuring from the first and second positions are performed subsequent to offering up the first part for assembly with the second part (see column 24 line 25 through line 47), with the first part overlying the assembly location (see column 24 line 25 through line 26 & Figures 5 a and 5b).

With regard to claim 6, and applying the rejection of claim 1 above, Pryor discloses at least one of the measuring step or the step of indicating is performed by a measuring device of known position (see column 15 line 19 through line 21 & column 17 line 32 through line 39).

With regard to claim 7, and applying the rejection of claim 6 above, Pryor discloses measuring the vector and the distance to a datum position associated with the second part (see column 14 line 17 through line 22 & column 21 line 1 through line 11), from a measuring device of known position (see column 15 line 19 through line 21 & column 17 line 32 through line 39), and determining the position of the assembly location relative to the measured datum position using stored CAD data (see column 17 line 48 through line 50).

With regard to claim 8, and applying the rejection of claim 1 above, Pryor discloses verifying that the position and orientation of the surface of the first part relates in a predetermined manner to the position and orientation of the surface of the second part local to the determined assembly location (see column 24 line 25 through line 47 and Figures 5a and 5b).

With regard to claim 9, and applying the rejection of claim 1 above, Pryor discloses determining the assembly location is carried out using a retro-reflector supported relative to a guide hole located in the second part (see column 47 line 52 through line 56 & column 18 line 43 through line 53 & column 21 line 7 through line 11).

With regard to claim 10, and applying the rejection of claim 1 above, Pryor discloses at least one of the measuring step or the step of indicating is carried out using a non-contact technique (see column 48 line 28 through line 37).

With regard to claim 11, and applying the rejection of claim 10 above, Pryor discloses at least one of the measuring step or the step of indicating is carried out using a laser tracking device (see column 14 line 48 through line 51).

With regard to claims 12 and 13, and applying the rejection of claim 1 above, Pryor discloses the steps of measuring, calculating and indicating is performed by program code stored and run on a computer (see column 14 line 67 through column 15 line 15 & column 3 line 13 through line 15 and abstract).

#### ***Response to Arguments***

4. Applicant's arguments, see page 11 lines 1 through line 6 of amendment filed April 6, 2004, with respect to the rejection(s) of claim(s) 1 and 2 under U.S. Patent No. 5,380,978 to Pryor have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

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However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Patent No. 6,510,357 to Naik et al. which provides teaching and motivation for perpendicular vector assembly.

5. Applicant's arguments filed April 6, 2004 on page 11 line 6 continuing through the end of remarks on page 13 have been fully considered but they are not persuasive. Pryor teaches indicating on the surface of the first part the calculated assembly point (see column 21 line 12 through line 49 & column 48 line 33 through line 37). The movement of the tool according to calculations by the computer as to its position until properly aligned indicates the point on the part surface that is the assembly point, the fact that this process can be automated is also discussed (see abstract). Further considerations of the specification are appreciated by the examiner but do not change the scope of the claim language of claims 1 and 2 in that no specific geometric calculation description for increased accuracy other than a perpendicular vector is provided in the claims and this is covered by the 103 rejection above in this office action.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period



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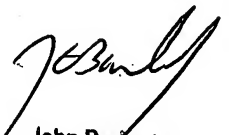
will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony T. Dougherty whose telephone number is (571) 272-2273. The examiner can normally be reached on Monday through Friday from 8 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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